

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date:

Region: Raleigh Regional Office
County: Vance
NC Facility ID: 9100069
Inspector's Name: Will Wike
Date of Last Inspection: 08/02/2017
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Ardagh Glass Inc.

Facility Address:

Ardagh Glass Inc.
 620 Facet Road
 Henderson, NC 27537

SIC: 3221 / Glass Containers

NAICS: 327213 / Glass Container Manufacturing

Facility Classification: Before: Title V **After:**

Fee Classification: Before: Title V **After:**

Permit Applicability (this application only)

SIP:

NSPS:

NESHAP:

PSD:

PSD Avoidance:

NC Toxics:

112(r):

Other: No New regulatory applicability, except for GACT 7C on gasoline storage tank

Contact Data

Facility Contact

Heather Harper
 EHS Manager
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 620 Facet Road
 Henderson, NC 27537

Authorized Contact

Stephane Jean
 Plant Manager
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Technical Contact

Heather Harper
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Application Data

Application Number: 9100069.17A, 17B

Date Received: 05/08/2017

Application Type: Renewal, 502(b)(10)

Application Schedule: TV-Renewal

Existing Permit Data

Existing Permit Number: 02834/T26

Existing Permit Issue Date: 12/22/2016

Existing Permit Expiration Date: 04/30/2018

Total Actual emissions in TONS/YEAR:

| CY | SO2 | NOX | VOC | CO | PM10 | Total HAP | Largest HAP |
|------|--------|--------|-------|-------|-------|-----------|---|
| 2016 | 148.27 | 488.12 | 19.27 | 69.55 | 50.75 | 3.36 | 1.83 [Hydrogen chloride (hydrochlori)] |
| 2015 | 157.05 | 456.39 | 20.14 | 72.77 | 52.07 | 3.31 | 1.70 [Hydrogen chloride (hydrochlori)] |
| 2014 | 143.73 | 516.54 | 19.86 | 72.36 | 54.23 | 3.61 | 2.02 [Hydrogen chloride (hydrochlori)] |
| 2013 | 150.68 | 515.35 | 19.82 | 72.32 | 52.38 | 3.08 | 1.54 [Hydrogen chloride (hydrochlori)] |
| 2012 | 152.32 | 515.72 | 18.38 | 65.90 | 60.80 | 2.66 | 1.26 [Hydrogen chloride (hydrochlori)] |

Review Engineer: Joseph Voelker

Review Engineer's Signature:

Date:

Comments / Recommendations:

Issue 02834/T27

Permit Issue Date:

Permit Expiration Date:

I. Introduction and Purpose of Application

Ardagh Glass Inc. (AGI) owns and operates a glass container production facility located in Henderson, North Carolina. The purpose of this application is to renew the Title V air permit. AGI is also requesting a number of updates to the permit.

II. Chronology

| Date | Description |
|------------|---|
| 05/08/2017 | An application was received and assigned application no. 9100069.17A. Pursuant to 15A NCAC 02Q 0513(b), TV renewal applications are due 9 months prior to the expiration date. This application was submitted roughly 12 months prior to the April 30, 2018 permit expiration date. |
| 11/22/2017 | 502(b)(10) notification received |
| 12/1/2017 | 502(b)(10) acknowledgment letter sent to Permittee |
| 02/28/2018 | ADD INFO email sent requesting information on ammonia, RICE condition changes, revisions to the GCD text as incorporated into the permit and MACT 6S questions |
| 03/02/2018 | Response to 02/28/2018 ADD INFO received via email |
| 05/18/2018 | ADD INFO email sent requesting appropriate B and C forms for the 502(b)(10) notification received 11/22/2017 |
| 05/18/2018 | An email was received stating the following: <i>With Bob's departure, I do not have authorization from the client at this point in time to complete this work. We did not prepare the 502(b)(10) request, so I do not have the information available to provide the B and C forms. I forwarded your email to AGI and asked if they would like our assistance in getting you what you need. I will let you know what I find out.</i> |
| 06/28/2018 | An email was received stating the following: <i>We are working on responding to your comments, as well as doing a strikethrough of the GCD section similar to Wilson. Could you send the Word version of the correct Henderson permit?</i> |
| 10/01/2018 | An email was received stating the following: <i>We are working with the facility to wrap this up. I will follow up with them again.</i> |
| 10/04/2018 | An email was received that included the forms requested on 05/18/2018 |
| 10/11/2018 | An email was received that included a markup of the draft permit |
| 12/28/2018 | A permit application was received and assigned application no. .18A. |
| 02/01/2019 | A revised draft was sent to Permittee |
| 2/7/2019 | An email to was received from the RO requesting that processing on application 18A be put on HOLD until source testing can verify emission rates. |
| 03/29/2019 | An email with the following comments to the draft permit was received from the Permittee: <i>We have reviewed the draft permit for the AGI Henderson facility and have the following comments.</i> <ul style="list-style-type: none"> • <i>The Table of Changes references NESHAP 7C for the gasoline dispensing GACT. This reference should be 6C.</i> • <i>The Table of Changes states that bagfilter CD-18 was added. The change was actually CD-19.</i> • <i>The Title V permit application had requested that DAQ explicitly list the requirements of NESHAP Subpart CCCCC (gasoline dispensing MACT). AGI would like to include these requirements in the body of the permit if possible.</i> • <i>In February 2019, AGI sent a request to suspend review of a TAP permit application to allow the facility to conduct a performance test for HCl. At that time, you had indicated that language would be added to the permit with respect to ammonia to indicate that a toxic air pollutant application was pending review to provide the facility some protection with respect to the ammonia TPER limit in the permit. Could you include this language in</i> |

| | |
|-----------------------|--|
| | <i>the permit?</i> |
| MM/DD/YYYY | Public Notice published on NCDEQ DAQ website; concurrent public/EPA comment period begins |
| MM/DD/YYYY | Public comment period ends |
| MM/DD/YYYY | EPA comment period ends |
| | |

III. Modification Description

Renewal and 502(b)(10) change

AGI currently operates under permit no. T26 issued December 22, 2016. All modifications that have occurred since the previous renewal (permit no T22, issued May 10, 2013) have been subjected to EPA, affected states and public review procedures pursuant to 15A NCAC 02Q .0521 and 0522 and are covered under the permit shield pursuant to 15A NCAC 02Q .0512 with the exception of the 502(b)(10) application submitted on November 22, 2017. See Section V for a history of the permitting actions since the last permit renewal.

The modification associated with the 502(b)(10) notification (the addition of a bagfilter, ID No. CD92-19) is discussed in Section IV , Item C.

On March 29, 2019, the Permittee requested that the insignificant activity be permitted explicitly in the TV permit.

| | |
|--------|--|
| IS-GT1 | one gasoline storage tank (500 gallons capacity) |
|--------|--|

The regulatory applicability of this source will be discussed in Section IV, Item E below.

Any substantial changes to the permit are discussed in Section IV below. All changes to the permit, including changes to the insignificant activities list are listed in Section VIII.

IV. Regulatory Review

All modifications that have occurred since the last permit renewal have been subjected to public and EPA review procedures. The most recent modification occurred with permit no T35 issued June 21, 2016. Brief discussions of all applicable air quality regulations on a source-specific basis are presented below.

| Emission Source ID No. | Emission Source Description | Control Device ID No. | Control Device Description |
|------------------------|---|-----------------------|--|
| GF-1 | <p>Glass melting furnace including the following equipment:</p> <p>(i) one natural gas/propane-fired melter with electric boost (350 tons per day rated glass pull rate, 60 million Btu per hour maximum heat input capacity, and 3600 kVA maximum electric boost capacity)</p> <p>(ii) one natural gas/propane-fired distributor (12.45 million Btu per hour maximum heat input capacity).</p> <p>(iii) two natural gas/propane-fired forehearths (5.0 million Btu per hour combined total maximum heat input capacity).</p> | CD-1 | Filtration system consisting of ceramic filter media with embedded catalyst for PM and NOx control |

15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

The permittee is currently required to conduct annual sources tests for total PM, maintain daily production rate records and an annual reporting requirement. It also has operating limitations associated with checker cleaning events. The most recent source test was conducted on May 1, 2018 and the test reported 1.25 lb/hr against an allowable emission rate of 18.8 lb/hr. This was the first PM test following the installation of the PM control device (ID No. CD-1). The margin of compliance is large, as expected. No changes to the permit are necessary. Continued compliance is expected.

15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

This regulation limits SO₂ emissions to 2.3 lb/MMBtu of heat input. This includes SO₂ emissions originating from sulfur containing batch materials. The furnace is also subject to SO₂ emission limits pursuant to a Global Consent Decree (GCD), which are included in the permit at Sections 2.2 A.2 and Section 2.3. The GCD requires a 30-day rolling average SO₂ emission limitation of 2.4 lb/ton when firing natural gas. SO₂ CEMS are used pursuant to the GCD. Given the maximum heat input into the furnace (melter distributor and forehearths) is 82.45 MMBtu, this GCD limit equates to 0.42 lb/MMBtu. Thus, compliance with the GCD limit will ensure compliance with 02D .0516 by a very wide margin. Therefore, no monitoring, recordkeeping or reporting is required for SO₂ emissions from the firing of natural gas and propane in the glass melting furnace. No substantive changes will be made to the existing permit condition.

15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

This rule limits opacity to 20% when averaged over a six-minute period with some exceptions. The current permit requires visible emissions readings on the melter once a week during normal operations and readings during every control device bypass and checker cleaning events, which are relatively infrequent, to demonstrate compliance. No substantive changes will be made to the existing permit condition.

15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS - 40 CFR PART 60 SUBPART CC - STANDARDS OF PERFORMANCE FOR GLASS MANUFACTURING PLANTS

This rule limits the melter to filterable PM emissions of 0.2 lb/ton of glass produced except during periods of routine control device maintenance. The most recent source test was conducted on May 01, 2018 and the test reported 0.1 lb/ton of glass vs the allowable emission limitation of 0.2 lb/ton of glass. This is the second source test conducted after the installation of the control device (ID No. CD-1). The permit will be revised to remove the initial testing requirement. Continued compliance is expected.

15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, SUBPART SSSSSS - "National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources

This regulation applies only during operation when HAP containing materials are used. The performance testing (chromium for green glass) was conducted on October 28, 2009 and approved via memo from James Hammond of the SSCB on November 4, 2010. The facility is recordkeeping production rates for all metal HAP compounds processed at the facility. All records appear to be complete and up-to-date and the most recent semiannual report was reviewed by the compliance inspector and found to contain the required information. Note that the performance test was conducted prior to the installation of the PM control device. No substantive changes will be made to the existing permit condition.

State-Enforceable Only**15A NCAC 02Q .0711: EMISSION RATES REQUIRING A PERMIT**

The Permit contains a requirement to submit a permit if the facility-wide emissions of ammonia exceed its toxic permitting emission rate (TPER). This was placed into the permit because of the use of ammonia injection for NO_x control. The facility monitors ammonia slip which triggers an alarm at 10 ppm. Based on the information submitted with the permit application that addressed the ammonia injection, the TPER would be exceeded at 13 ppm. No substantive changes will be made to the existing permit condition.

State-Enforceable Only**15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS**

2.15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS**State/Federal Enforceable Only**
Global Consent Decree Requirements

See discussion elsewhere.

B. The following:

| Emission Source ID No. | Emission Source Description | Control Device ID No. | Control Device Description |
|-------------------------------|---|------------------------------|-----------------------------------|
| GF-2 NSPS CC | <p>Glass melting furnace including the following equipment:</p> <p>(i) one natural gas/propane-fired melter equipped with oxygen enriched air staging and electric boost (385/345 tons per day peak/annual average rated glass pull rate, 85 million Btu per hour maximum heat input capacity, and 3,400 kVA maximum electric boost capacity)</p> <p>(ii) one natural gas/propane-fired distributor (3.4 million Btu per hour maximum heat input capacity).</p> <p>(iii) three natural gas/propane-fired forehearths (5.6 million Btu per hour combined total maximum heat input capacity).</p> | n/a | n/a |

15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

The permittee is currently required to conduct annual sources tests for total PM, maintain daily production rate records and an annual reporting requirement. The most recent source test was conducted on May 2, 2018 and the test reported 8.35 lb/hr against an allowable emission rate of 24.7 lb/hr. No changes to the permit are necessary. Continued compliance is expected.

15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

This regulation limits SO₂ emissions to 2.3 lb/MMBtu of heat input. This includes SO₂ emissions originating from sulfur containing batch materials. The furnace is also subject to SO₂ emission limits pursuant to a Global Consent Decree (GCD), which are included in the permit at Sections 2.2 A and B and Section 2.3. The GCD requires a 30-day rolling average SO₂ emission limitation of 2.4 lb/ton when firing natural gas. SO₂ CEMS are used pursuant to the GCD. Given the maximum heat input into the furnace is 105.2 MMBtu/hr, the GCD limit equates to 0.37 lb/MMBtu. Thus, compliance with the GCD limits will ensure compliance with this regulation by a very wide margin. Therefore, no monitoring, recordkeeping or reporting is required for SO₂ emissions from the firing of natural gas or propane in the glass melting furnace. No substantive changes will be made to the existing permit condition.

15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

This rule limits opacity to 40% when averaged over a six-minute period with some exceptions. The current permit requires the use of COMS and the monitoring, recordkeeping and reporting via NSPS subpart CC on the melter to demonstrate compliance. No substantive changes will be made to the existing permit condition.

15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS - 40 CFR PART 60 SUBPART CC - STANDARDS OF PERFORMANCE FOR GLASS MANUFACTURING PLANTS

This NSPS limits the melter to filterable PM emissions of 1.0 lb/ton of glass produced and the use of opacity as an indicator of proper operation and maintenance. Opacity has also been utilized for Title V purposes as monitoring to ensure compliance with the PM standard. Annual testing is also required. The most recent source test was conducted on May 2, 2018 and the test reported 0.5 lb/ton of glass. No changes to the permit are necessary. Continued compliance is expected.

15A NCAC 02D. 0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

The Permittee has used projected actual emissions to avoid applicability of Prevention of Significant Deterioration requirements for a project consisting of modifications to the forehearth, distributor and melter associated with Furnace GF-2 (ID No. GF-2). This project also involves the modification of other ancillary equipment and is fully described in application no. **9100069.11B**.

The Permittee shall maintain records of actual emissions for PM (filterable and condensable), PM₁₀, PM_{2.5}, SO₂, sulfuric acid mist, fluorides and lead in tons per year on a calendar year basis for five years following the resumption of regular operations upon commencement of the modifications described in application no. **9100069.11B**.

The modifications described in the application were completed and regular operations commenced in June 2012.

Therefore, AGJ was required to track and report actual emissions through June 2017. AGI has met this requirement and has requested that this recordkeeping requirement be removed from the Permittee. This permit condition will be removed from the revised permit.

15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, SUBPART SSSSSS - "National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources

This regulation applies only during operation when HAP containing materials are used. This furnace to date has not used HAP containing materials. This rule does not apply to this furnace.

State-Enforceable Only

15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

2.15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS

State/Federal Enforceable Only

Global Consent Decree Requirements

See discussion elsewhere.

C. The following material handling operations:

Table 2.1.C

| Emission Source ID No. | Emission Source Description | Control Device ID No. | Control Device Description |
|-------------------------------|--|------------------------------|---|
| ES-1A | raw material unloading operation | CD92-11 | one bagfilter (480 square feet of filter area) installed on the rail car unloading operation |
| ES-1B | raw material storage and transfer operations | CD92-14 to CD92-18 | five bagfilters (65 square feet of filter area each) installed on each on five raw material storage bin vents of Silo No. 3 |
| ES-2 | batching operations | CD92-12 CD92-13 | two bagfilters (one with 640 and one with 800 square feet of filter area) |
| ES-3 | furnace feed operations | CD92-1 CD92-3 | two bagfilters (800 square feet of filter area each) |

As stated in the permit application:

Raw materials including sand, soda ash, and limestone are received via railcars (with trucks as backup) and unloaded into the receiving hopper. Dust collectors are installed on the transfer equipment associated with the railcar unloading operations to control PM emissions. Cullet is received at the facility via trucks or generated internally and unloaded onto cullet pads. Large cullet is crushed in a cullet crusher as needed. Unloaded raw materials are transferred via bucket elevator

and are sorted by a rotating head into separate bins in the storage silo. The major raw materials are cullet, sand, soda ash, and limestone. Other minor ingredients are stored in separate storage bins. Dust collectors are installed on the raw material storage bins to control PM emissions from air displacement as material is loaded into the bins. The bin vent filters exhaust inside the storage silo.

Raw materials are transferred through a gravity feed system into a weigh hopper before being combined. The PM emissions from the weighing and mixing operations are also controlled by dust collectors. The combined materials are transferred via bucket elevator into the batch storage bins. PM emissions from the batch storage bins are controlled by dust collectors. The combined materials are fed into either glass melting furnace (Glass Melting Furnace #1 [part of GF-1] or Glass Melting Furnace #2 [part of GF-2]) via the chargers. PM emissions from the chargers are also controlled by dust collectors

On November 28, 2017 a 502-B-10 Notification was received that stated the following:

On November 30, 2017, AGI will transition one of the storage bins currently used to store soda ash (permitted as part of Emission Source ID No. ES-1B - raw material storage and transfer operations; controlled by dust collector 92-16) to store dolomite instead. The existing dust collector will continue to service the remaining soda ash bins. According to AGI's current Title V Operating Permit (Permit No. 02834T26) the facility already has the capability and authorization to use dolomite in the glass manufacturing furnaces. AGI will install a new dust collector rated at a maximum exhaust flow rate of 260 standard cubic feet per minute (scfm) to control emissions of PM species generated by the dedicated dolomite storage bin. To avoid cross contamination, the new dust collector will only serve the dolomite storage bin and will not be used in relation to any bins containing soda ash. We will include this dust collector in our Title V permit at the next permit opening.

On October 4, 2018, the Permittee submitted the appropriate forms for the new control device. The table above will be revised to incorporate the new bag filter. The table will read as follows:

Table 2.1.C

| Emission Source ID No. | Emission Source Description | Control Device ID No. | Control Device Description |
|-------------------------------|--|------------------------------|--|
| ES-1A | raw material unloading operation | CD92-11 | one bagfilter (480 square feet of filter area) installed on the rail car unloading operation |
| ES-1B | raw material storage and transfer operations | CD92-14 to CD92-19 | six bagfilters (65 square feet of filter area each) installed on each on five raw material storage bin vents of Silo No. 3 |
| ES-2 | batching operations | CD92-12 CD92-13 | two bagfilters (one with 640 and one with 800 square feet of filter area) |
| ES-3 | furnace feed operations | CD92-1 CD92-3 | two bagfilters (800 square feet of filter area each) |

No substantive changes will be necessary to the existing permit conditions as a result of this change. Below is a review of the applicable regulations for these sources.

15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

These sources are controlled by filtration and have permit conditions requiring maintenance and recordkeeping. Continued compliance is expected. No substantive changes will be made to the existing permit condition.

15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

These sources are currently required to conduct VE readings once every three months. The permit will be revised to require once per month VE readings which is typical for these types of sources. No other substantive changes will be made to the existing permit condition.

D. The following source:

| Emission Source ID No. | Emission Source Description | Control Device ID No. | Control Device Description |
|-------------------------------|------------------------------------|------------------------------|-----------------------------------|
| MS-1 | Mold swabbing operation | n/a | n/a |

This source is primarily a VOC source. It is a unit operation that emits fugitively into the indoor environment.

15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

This source emits indoors with no controls. No monitoring recordkeeping or reporting is required. No substantive changes will be made to the permit.

E. The following source:

| Emission Source ID No. | Emission Source Description | Control Device ID No. | Control Device Description |
|-------------------------------|--|------------------------------|-----------------------------------|
| GT-1 | one gasoline storage tank (500 gallons capacity) | n/a | n/a |

This source was from the insignificant list to the permit at the request of the Permittee. It is a fugitive source of VOC HAPs and TAPs. The only applicable regulation is the following:

15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, SUBPART CCCCCC - National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

The Permittee noted in the application that this tank is the only source subject to any applicable requirements under this rule. From the application:

The Henderson facility meets the definition of a GDF. Specifically, the gasoline storage tank (GT1) is subject to the regulations of GACT Subpart CCCCCC. The monthly throughput of gasoline is less than 10,000 gallons so the Henderson facility must comply with the requirements under §63.11116. Compliance is demonstrated by tracking and recording the monthly fuel usage and limiting vapor releases to the atmosphere through good operating procedures

The requirements of this rule will be incorporated into a condition in the revised permit.

Facility Wide Affected Sources**STATE ENFORCEABLE ONLY****15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS**

This rule requires the Permittee to not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary. This requirement applies to all facilities. The Permittee requested that its applicability be noted in the permit. A permit condition will be added to the permit. The

enforcement of this rule is generally complaint driven. The facility has had no compliance problems associated with this rule. Continued compliance is expected.

State-Enforceable Only

15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS

This renewal does not result in a change in any TAP emissions. The permit contains emission limitations for arsenic, cadmium, sulfuric acid, and fluorides from both furnaces. These limits have remained unchanged since last permit renewal. A review of the past 5 years of emissions inventory shows that emissions of these pollutants to be well below the permitted limits. In addition, there are no records (i.e. inspection reports, NOV's) of any compliance issues associated with this regulation since the last permit renewal. The current permit contains no monitoring, recordkeeping and reporting. Since the reported actual emissions are well below the permitted emission limits, no changes to the existing monitoring, recordkeeping and reporting will be made.

Global Consent Decree (GCD)

Ardagh (previously Saint Gobain Containers,) entered into a Global Consent Decree (GCD) with the United States Environmental Protection Agency (EPA), NCDEQ (formerly NCDENR) and other state agencies. The Date of Entry of this Consent Decree is May 7, 2010. Pursuant to the GCD, SGCI is subject numerous requirements, which are found in Section 2.2 A.2 and 2.3 of the permit. Most of the milestones under the GCD have passed and the facility now operates with SO₂, NO_x, H₂SO₄ and PM limits imposed under the authority of the GCD. No substantive changes are necessary to the permit conditions addressing the GCD except that AGI requests that explicit NO_x limits be incorporated into Section 2.3. The current permit simply contains the appropriate equations. No changes in intent will be made. See Section VII of this review for all changes to Section 2.3.

V. Permitting History since last renewal

The following is the permitting history since the last permit renewal.

| | |
|-------------------|-----------------|
| Permit No.: | T26 |
| Issued: | 12/22/2016 |
| Application No.: | 16A |
| Application Type: | TV- Significant |
| Description: | |

As stated in the permit application:

A Global Consent Decree (GCD) was finalized for Saint-Gobain Containers, Inc. (now AGI) by the Federal District Court with a Date of Entry (DOE) of May 7, 2010. Per the GCD (IV.7.b.i.2), the Henderson Plant is required to convert the Henderson Furnace #1 (part of GF-1) to an oxyfuel furnace by December 31, 2016 to achieve a NO_x emission rate of 1.3 lb/ton of glass produced. Following an approval from the Environmental Protection Agency (EPA) on June 25, 2015, AGI submitted a preconstruction permit application in July 2015 for installation of an alternative control device technology in lieu of the GCD-specified oxyfuel for Henderson's Furnace #1. A preconstruction permit dated March 17, 2016 (Permit No. 02834T24) was issued by NC DEQ to begin construction of the control device.

This application is being submitted to modify the facility's Title V permit to account for the installation of a McGill AirClean™ advanced selective catalytic reduction (SCR) system. The SCR system includes a ceramic filter technology (TopFrax™) with upstream injection of ammonia to control NO_x emissions and PM emissions.

Given the proposed changes to the existing Title V (TV) permit, this application will be processed as a significant modification pursuant to 15A NCAC 02Q .0516 SIGNIFICANT PERMIT MODIFICATION.

Permit No.: T25
 Issued: 07/13/2016
 Application No.: 15A
 Application Type: TV- Significant
 Description:

AGI would like to address the following: *(the following text is from the application)*

Saint-Gobain Containers, Inc. (now AGI) agreed to a global consent decree (GCD) with EPA and several states, including North Carolina, and NCDENR, which was entered by the United States District Court for the Western District of Washington at Seattle on May 7, 2010. Paragraph IV.8.g.iii of the GCD requires that AGI submit a complete application to the state/local permitting authority by June 30, 2015, for two federally-enforceable SO₂ emission limits measured on a 30-day rolling average for each of the process-controlled furnaces listed in Table 4 of the GCD. One limit applies during times when the furnace is producing flint (clear) glass and the other limit applies when the furnace is producing colored (any other) glass. The Henderson Furnaces are process-controlled furnaces listed in Table 4 of the GCD. Under the GCD, the requested SO₂ emission limits apply beginning on the date of the permit application, except during periods specifically excluded as described in the application.

As required by the GCD, this application requests federally-enforceable SO₂ emission limits measured on a 30-day Rolling Average Emission Rate for the Henderson Furnaces.

This application will be processed pursuant to the significant modification procedures of 15A NCAC 02Q .0516.

Permit No.: T24
 Issued: 03/17/2016
 Application No.: 15B
 Application Type: TV- Minor
 As stated in the permit application:

A Global Consent Decree (GCD) was finalized for Saint-Gobain Containers, Inc. (now AGI) by the Federal District Court with a Date of Entry (DOE) of May 7, 2010. Per the GCD (IV.7.b.i.2), the Henderson Plant is required to convert the Henderson Furnace #1 (part of GF-1) to an oxyfuel furnace by December 31, 2016 to achieve a NO_x emission rate of 1.3 lb/ton of glass produced. However, in lieu of the GCD-specified oxyfuel for Henderson's Furnace #1, AGI will install an alternative technology such as installation of a traditional selective catalytic reduction (SCR) system, a ceramic filter technology with upstream injection of ammonia (for example, the Maguin CERCAT® system or Tri-Mer "UltraCat" system), or other such system to control NO_x emissions and PM emissions. On March 2, 2015, AGI submitted a request to the Environmental Protection Agency (EPA) for approval of either a SCR or ceramic filter technology system as an alternative NO_x control device and on June 25, 2015, EPA approved the request (Appendix B). These alternative NO_x control technologies, available from multiple vendors, will achieve the same NO_x emission limit of 1.3 lb/ton as originally required under the GCD, regardless of the vendor utilized.

This review engineer agrees with the above statements. The referenced EPA approval letter is included as Appendix B to the permit application. The DAQ has no reason to believe that the NO_x limits imposed by the GCD will not be met by the proposed technologies, particularly because testing, monitoring (via the use of CEMS), recordkeeping and reporting requirements will also ultimately be included in the air permit prior to the system being operated.

For the record, the application submitted was very confusing and unusual, because it did not have final specifications on the controls systems intended to be constructed nor address the changes in monitoring, recordkeeping and reporting necessary for regulatory compliance. It also described a furnace rebuild project that would ultimately lead to an increase in glass pull rate through the furnace. Through the narrative below (primarily in Section II), it will be shown

that the scope of this permitting action has been narrowed to simply allow construction of the GCD required control devices to begin. A permit application submittal requirement will be placed into the permit that will require the Permittee to address any changes in regulatory applicability and associated monitoring, recordkeeping and reporting prior to the operation of the control device if the Permittee cannot meet the existing requirements of the permit with the new control devices installed.

The current permit contains in Section 2.3 all the GCD emission limitations and requirements for both Henderson furnaces. The permit currently reflects the original requirements of the GCD for furnace #1 to install oxyfuel technology to meet the NOx emission limitations. The permit will be revised as necessary to clarify that the alternative technology has been approved by the EPA and the NCDAQ.

Permit No.: T23
 Issued: 06/09/2014
 Application No.: 14A
 Application Type: Administrative – Name Change
 Description:

SGCI would like to address the following:
(As stated in the application 14A):

On April 11, 2014, all the stock of Saint-Gobain Containers, Inc., was transferred from Compagnie de Saint Gobain S.A. to Ardagh Holdings USA, Inc. In conjunction with this stock sale, Saint-Gobain Containers, Inc. is changing its name to Ardagh Glass Inc. The owner and operator of the Henderson Plant, the tax ID, responsible official, landowner, and contact information (other than the name) remain the same, since there was no transfer of assets because of the stock sale and name change.

Enclosed with this letter is Form AA (Administrative Application) to request the name change from Saint-Gobain Containers, Inc. to Ardagh Glass Inc.

Permit No.: T22
 Issued: 05/10/2013
 Application No.: 11A
 Application Type: TV-Renewal
 Description:

VI. NSPS, NESHAPS, PSD, Toxics, Attainment Status, 112(r), and CAM

NSPS

NSPS applicability is discussed in Section IV.

NESHAP/MACT

The facility is a minor source of HAP. Therefore, the Wilson facility is not subject to any major source NESHAPS. See discussion in Section IV for applicable HAP minor source MACT requirements.

PSD

Vance County is in attainment for all pollutants. The facility is a PSD major source. The facility currently has one 02D .0530(u) recordkeeping condition to demonstrate that certain modifications have not triggered PSD review. The condition will be removed during this renewal. See discussion in Section IV.

CAM

The only emission units routed to control devices at the Henderson facility are:

- a) the raw material handling sources routed to fabric filters for compliance with the PM standard 02D .0515; and
- b) the melter on Furnace no. 1, which is routed to the catalytic ceramic filter for compliance with the:
 - i. PM standards NSPS Subpart CC, 02D .0515 and the GCD imposed PM emission limitation and
 - ii. the GCD imposed NOx emission limitation.

Each of these sources have potential uncontrolled PM emissions less than 100 tpy, thus CAM does not apply for any sources of PM. Furnace GF-1 has potential emissions greater than 100 tpy for NOx but it utilizes a NOx CEM to demonstrate continuous compliance. As such CAM does not apply. No further review is necessary. All calculations are included in Appendix C of the application.

112r

The Permittee is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in 112(r).

Toxics

See discussion in Section IV.

VII. Compliance History

Based on the most recent compliance inspection report issued by Steve Carr on July 19, 2018, Ardagh appeared to be operating in compliance with all permit requirements. The following discussion is excerpted from that report.

ENFORCEMENT HISTORY: Ardagh Glass has been issued four Notices of Violation (NOVs) and one Notice of Deficiency (NOD) according to compliance records. Most recently, an NOD was issued dated March 17, 2017 for missed recordkeeping that was identified in the annual compliance certification for calendar year 2016.

Prior to the NOD, the facility received an NOV/SOC demand letter on January 4, 2013 for failing to demonstrate compliance with the applicable PM emission standard during “subsequent checker cleaning” on September 25, 2012. A penalty of \$2000 was stipulated in the associated SOC.

The company was issued two NOVs dated March 14, 2007 and March 27, 2006 for failure to submit a complete annual compliance certification by the due date for calendar years 2006 and 2005, respectively. A Notice of Violation/Notice of Recommendation for Enforcement (NOV/NRE) was issued March 18, 2005 for air toxics, NSPS, and Title V permit violations. DAQ and St. Gobain signed a Special Order by Consent (SOC) agreement covering the violations cited in the March 18, 2005 NOV/NRE.

VIII. Changes Implemented in Revised Permit

| Existing Condition No. | New Condition No. | Changes |
|------------------------|-------------------|---|
| Cover Letter | Same | Revised dates, permit numbers, etc. using current shell standards |

| Existing Condition No. | New Condition No. | Changes |
|--|-------------------|--|
| Insignificant Activities List | Same | <ul style="list-style-type: none"> Added: <ul style="list-style-type: none"> IS-DG5 Diesel fuel-fired emergency generator (896 bhp output, 600 kW electrical output) IS-DT4 One diesel storage tank (1,000 gallons capacity) IS-DO Electric delivery oven(s) Removed: <ul style="list-style-type: none"> IS-PW one natural gas fired parts washer (0.18 million Btu/hr) using a caustic base solution IS-UT2 one used oil storage tank (1,000 gallons capacity each) Combined all cooling towers into one ID no., IS-CT Moved gasoline storage tank (ID No. GT-1) from the insignificant activities list to the permitted equipment list at the request of the Permittee |
| Permit page 1 | Same | <ul style="list-style-type: none"> Revised dates, permit numbers, etc. using current shell standards |
| Global | Same | <ul style="list-style-type: none"> Revised all references to paragraphs and conditions to current permit shell standards. |
| Section 1. Permitted Emission Source Table | Same | <ul style="list-style-type: none"> Revised GF-1 melter description as follows (no changes in intent were made): <p style="text-align: center;">from</p> <p>i) one natural gas/propane-fired melter with electric boost (350 tons per day rated glass pull rate, 60 million Btu per hour maximum heat input capacity, and 3600 kVA electric [12.3 million Btu per hour] maximum heat input capacity)</p> <p style="text-align: center;">to</p> <p>(i) one natural gas/propane-fired melter with electric boost (350 tons per day rated glass pull rate, 60 million Btu per hour maximum heat input capacity, and 3600 kVA maximum electric boost capacity)</p> Revised GF-2 melter description as follows (no changes in intent were made): <p style="text-align: center;">from</p> <p>(i) one natural gas/propane-fired melter equipped with oxygen enriched air staging and electric boost (385/345 tons per day peak/annual average rated glass pull rate, 85/64 million Btu per hour maximum/nominal heat input capacity, and 3400 kVA electric [11.6 million Btu per hour] maximum heat input capacity)</p> <p style="text-align: center;">to</p> <p>(i) one natural gas/propane-fired melter equipped with oxygen enriched air staging and electric boost (385/345 tons per day peak/annual average rated glass pull rate, 85 million Btu per hour maximum heat input capacity, and 3,400 kVA maximum electric boost capacity)</p> Added new bag filter CD92-19 to emission source ES-1B Moved gasoline storage tank (ID No. GT-1) from the insignificant activities list to the permitted equipment list |

| Existing Condition No. | New Condition No. | Changes |
|--|-------------------|--|
| 2.1.A. emission Source Table | Same | <ul style="list-style-type: none"> Revised GF-1 melter description as follows (no changes in intent were made): <p style="text-align: center;">from</p> i) one natural gas/propane-fired melter with electric boost (350 tons per day rated glass pull rate, 60 million Btu per hour maximum heat input capacity, and 3600 kVA electric [12.3 million Btu per hour] maximum heat input capacity) <p style="text-align: center;">to</p> (i) one natural gas/propane-fired melter with electric boost (350 tons per day rated glass pull rate, 60 million Btu per hour maximum heat input capacity, and 3600 kVA maximum electric boost capacity) |
| 2.1 A.1 | Same | 02D .0515 condition |
| c.i | Same | <ul style="list-style-type: none"> Removed the following language as it is inconsistent with current TV administrative permitting rules: <i>the Permittee shall, upon approval by the DAQ, attach the approval memo containing the revised allowable checker cleaning event interval to this permit.</i> It has been replaced with the following language: <i>the Permittee shall submit a permit application to revise the permit consistent with 15A NCAC 02Q .0500</i> |
| 2.1 A.3 | Same | 02D .0524 NSPS Subpart CC condition |
| d | same | <ul style="list-style-type: none"> Removed the initial testing requirement. Renumbered remaining conditions |
| 2.1 A.4. | Same | 2D .0521 (visible emissions) condition |
| f.i and f.ii.(D) | Same | <ul style="list-style-type: none"> Removed the following language since normal has already been established. The Permittee shall establish “normal” for the source in the first 30 days following the effective date of Permit No. T26. |
| 2.1 B emission Source Table | Same | <ul style="list-style-type: none"> Revised GF-2 melter description as follows (no changes in intent were made): <p style="text-align: center;">from</p> (i) one natural gas/propane-fired melter equipped with oxygen enriched air staging and electric boost (385/345 tons per day peak/annual average rated glass pull rate, 85/64 million Btu per hour maximum/nominal heat input capacity, and 3400 kVA electric [11.6 million Btu per hour] maximum heat input capacity) <p style="text-align: center;">to</p> (i) one natural gas/propane-fired melter equipped with oxygen enriched air staging and electric boost (385/345 tons per day peak/annual average rated glass pull rate, 85 million Btu per hour maximum heat input capacity, and 3,400 kVA maximum electric boost capacity) |
| 2.1 B. applicable regulations table | Same | <ul style="list-style-type: none"> Removed reference to 02D .0530(u) |
| 2.1 B.4 | Same | NSPS Subpart CC condition |

| Existing Condition No. | New Condition No. | Changes |
|------------------------|-------------------|---|
| e. | same | <ul style="list-style-type: none"> Removed the following language as it is inconsistent with current TV administrative permitting rules: <i>The Permittee may at anytime reestablish the three-hour block average opacity limit. The Permittee shall, upon approval by the DAQ, attach the source test approval memo containing the revised three-hour block average opacity value to this permit and comply with the three-hour block average opacity value contained therein.</i> <p>and revised to read:</p> <p><i>The Permittee may at anytime, reestablish through permitting procedures consistent with 15A NCAC 02Q .0500, this three-hour block average opacity value.</i></p> |
| f. | same | <ul style="list-style-type: none"> Removed the following language as it is inconsistent with current TV administrative permitting rules: <i>The Permittee may at anytime, consistent with the provisions of 40 CFR 60.293(e), reestablish the 99% UCL value. The Permittee shall, upon approval by the DAQ, attach the source test approval memo containing the revised 99 % UCL value to this permit and comply with the 99% UCL value contained therein.</i> <p>revised to read:</p> <p><i>The Permittee may at any time, consistent with the provisions of 40 CFR 60.293(e), reestablish, through permitting procedures consistent with 15A NCAC 02Q .0500, this UCL value.</i></p> |
| 2.1 B.5 | NA | <ul style="list-style-type: none"> Removed the 02D .0530(u) 5- year recordkeeping and reporting requirement. The 5-year obligation ended on June 2017. |
| Section 2.1 C | Same | <ul style="list-style-type: none"> Revised Table 2.1 C to incorporate new bag filter CD92-19 |
| 2.1 C.2 | Same | 2D .0521 condition |
| c. | same | <ul style="list-style-type: none"> revised monitoring condition to require monthly VE readings, consistent with similar PM sources elsewhere. |
| NA | 2.1 E | <ul style="list-style-type: none"> Added section to address applicable requirements for the gasoline storage tank (ID No. GT-1) |
| NA | 2.2 A.1.d | <ul style="list-style-type: none"> At the request of the Permittee, added a permit condition referencing a permit application addressing 02Q .0708, which is still under review. |
| NA | Section 2.2 B.1 | <ul style="list-style-type: none"> Added a 02D .1806 odor rule condition |
| Section 2.3 | Same | Global Consent Decree condition |
| IV.7.b. | same | <p>The existing language in this paragraph was removed and replaced with the following:</p> <p><i>[The requirements of paragraph IV.7.b. have been satisfied.]</i></p> |
| IV.7.d.ii.2 | Same | <ul style="list-style-type: none"> Added specific calculation for NOx Limit during Abnormally Low Production Rate Days for furnace GF-1 |
| IV.7.d.ii.4 | Same | <ul style="list-style-type: none"> Added specific calculation for NOx limit during Startup of the SCR and Malfunction of the SCR for furnace GF-1 |

| Existing Condition No. | New Condition No. | Changes |
|------------------------|-------------------|---|
| IV.7.d.ii.5 | Same | <ul style="list-style-type: none"> Added specific calculation for NO_x limit during Maintenance of the SCR for furnace GF-1 |
| IV.7.e.iii.2 | Same | <ul style="list-style-type: none"> Added specific calculation for NO_x Limit during Abnormally Low Production Rate Days for furnace GF-2 |
| IV.7.e.iii.4 | Same | <ul style="list-style-type: none"> Added specific calculation for NO_x limit during Malfunction for furnace GF-2 |
| IV.7.d.iii.5 | Same | <ul style="list-style-type: none"> Added specific calculation for NO_x limit during Maintenance for furnace GF-2 |
| IV.8.a | Same | <ul style="list-style-type: none"> All remaining subparagraphs were removed as all the requirements have been met and superseded by Condition 2.2 A.2 |
| IV.8.b | Same | <ul style="list-style-type: none"> All remaining subparagraphs were removed as all the requirements have been met. |
| IV.8.g | Same | <ul style="list-style-type: none"> All remaining subparagraphs were removed as all the requirements have been met. |
| IV.8.l | Same | <ul style="list-style-type: none"> Existing language removed and replaced with the following [Addressed in Section 2.2 A.2.c] |
| IV.8.m | Same | <ul style="list-style-type: none"> Existing language removed and replaced with the following [No longer applicable. Furnaces not permitted to burn fuel oil] |
| IV.9.a | Same | <ul style="list-style-type: none"> All remaining subparagraphs were removed as all the requirements have been met and superseded by condition IV.9.b. |
| IV.9.l | Same | <ul style="list-style-type: none"> All remaining subparagraphs were removed as all the requirements have been met. |
| Section 3 | Same | <p>General Conditions</p> <p>Revised from version 4.0, 12/17/15) to version 5.3, 08/21/18)</p> |
| Condition K | same | <ul style="list-style-type: none"> Revised second sentence from Permit expiration terminates the facility's right to operate unless a complete 15A NCAC 02Q .0500 renewal application is submitted at least nine months before the date of permit expiration to Permit expiration terminates the facility's right to operate unless a complete 15A NCAC 02Q .0500 renewal application is submitted at least six months before the date of permit expiration <p>02Q .0513 was revised April 1, 2018</p> |
| Condition LL | same | <ul style="list-style-type: none"> Revised second sentence from During operation the monitoring recordkeeping and reporting requirements as prescribed by the permit shall be implemented within the monitoring period. to When permitted equipment is not in operation, the requirements for testing, monitoring, and recordkeeping are suspended until operation resumes. |
| Condition MM | Same | <ul style="list-style-type: none"> Removed "State Enforceable Only" designation Added comma as follows: from process areas stockpiles to process areas, stockpiles |
| List of acronyms | Same | <ul style="list-style-type: none"> Changed Alternate Operating Scenario to Alternative Operating Scenario |

IX. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 02Q .0521 above.

~~X. Recommendations~~

TBD